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ABSTRACT

MOUNTAIN LIONS (*Felis concolor*) IN THE VICINITY OF CARLSBAD CAVERNS NATIONAL PARK, N.M., AND GUADALUPE MOUNTAINS NATIONAL PARK, TX. Smith, T. E., R. R. Duke, M. J. Kutilek and H. T. Harvey; Harvey and Stanley Associates, Inc., Alviso, CA.

A three year study of mountain lions was conducted in the vicinity of Carlsbad Caverns National Park, New Mexico, and Guadalupe Mountains National Park, Texas in order to provide basic ecological information to the National Park Service. Accurate information was needed to enable the Park Service to refine and develop management plans in part because mountain lions were known to be killing sheep on ranches north of the boundaries of the two parks, and the role of mountain lions from these parks was not known. Twenty-two mountain lions were captured, fitted with radio-collars, released and monitored during the course of the study. The home ranges, movements, dispersal, activity, reproduction, and food habits of these animals were studied and reported. An estimated maximum of 58 lions (24 adult, 12 yearling, and 22 kittens) occupied the study area of 1036 km² (400 mi²) within the two parks and sections of the Lincoln National Forest at any one time. Densities for this study are 2.3 adults per 100 km², and 5.6 total mountain lions (all age classes) per 100 km². Home ranges for adult males averaged 207 km² (80 mi²) and were largely exclusive, while female home ranges averaged 59 km² (23 mi²), often overlapping with other females. Deer were the principal prey species, occurring in 82% of 318 scat collected and analyzed. During the study period, 65 mountain lions (including 11 radio-collared animals) were killed on or near ranches bordering the National Parks. Some of these 65 animals were adults from within the National Parks, some were young produced within the parks, and apparently others were from outside the study area. Six of the 11 radio-collared mountain lions which were killed were known or believed to have killed sheep, but whether the others did is unknown. Despite the large numbers of lions killed bordering park lands, no detectable changes occurred in mountain lion density during the study, which suggests that reproduction and immigration from other areas replaced the mountain lions which were killed. The study has particular significance in that it documents ecological parameters in an area with heavy mountain lion mortality. It also contains extensive information regarding mountain movement and activity relative to depredation.